UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733

July 8, 2015

Village of Milan
c/o Ms. Marcella Sandoval
P.O. Box 2727
Milan, New Mexico 87021

RE: Analytical results for a sample collected by the U.S. Environmental Protection Agency (EPA) from your well on February 9, 2015 as part of the San Mateo Creek Basin Groundwater Investigation

Dear Ms. Sandoval:

The purpose of this letter is to provide you with the analytical results for a water sample collected on your property by the EPA in February 2015. The water sample collected from your property was analyzed for various chemicals that are associated with historical mining and milling operations in your area.

Please see the enclosed documents for information on the results from the sample(s) collected from your well(s) which includes:

- a table comparing the analytical results to EPA and State of New Mexico human health standards;
- an ATSDR Uranium Fact Sheet; and
- a map showing the location of the well sampled.

EPA will be hosting a Grants Mining District community meeting on Thursday, August 13, 2015, at the Cibola County Building, 515 West High Street, Grants, New Mexico 87020. EPA will be available starting at 5:00 p.m. to answer any questions you may have regarding your results prior to the official start of the community meeting.

Thank you for your participation in the well sampling program. EPA continues to review information and investigate groundwater quality in the area. Well owners may be contacted for permission to conduct follow-up or confirmatory well sampling as necessary.

Please contact me at 214-665-6666 or via email at turner.ladonna@epa.gov if you have any questions.

Sincerely,

LaDonna Turner

LaDonna Turner
Superfund
Risk and Site Assessment Section

Enclosures:

9881166

San Mateo Creek Basin
Phase I Water Analytical Results

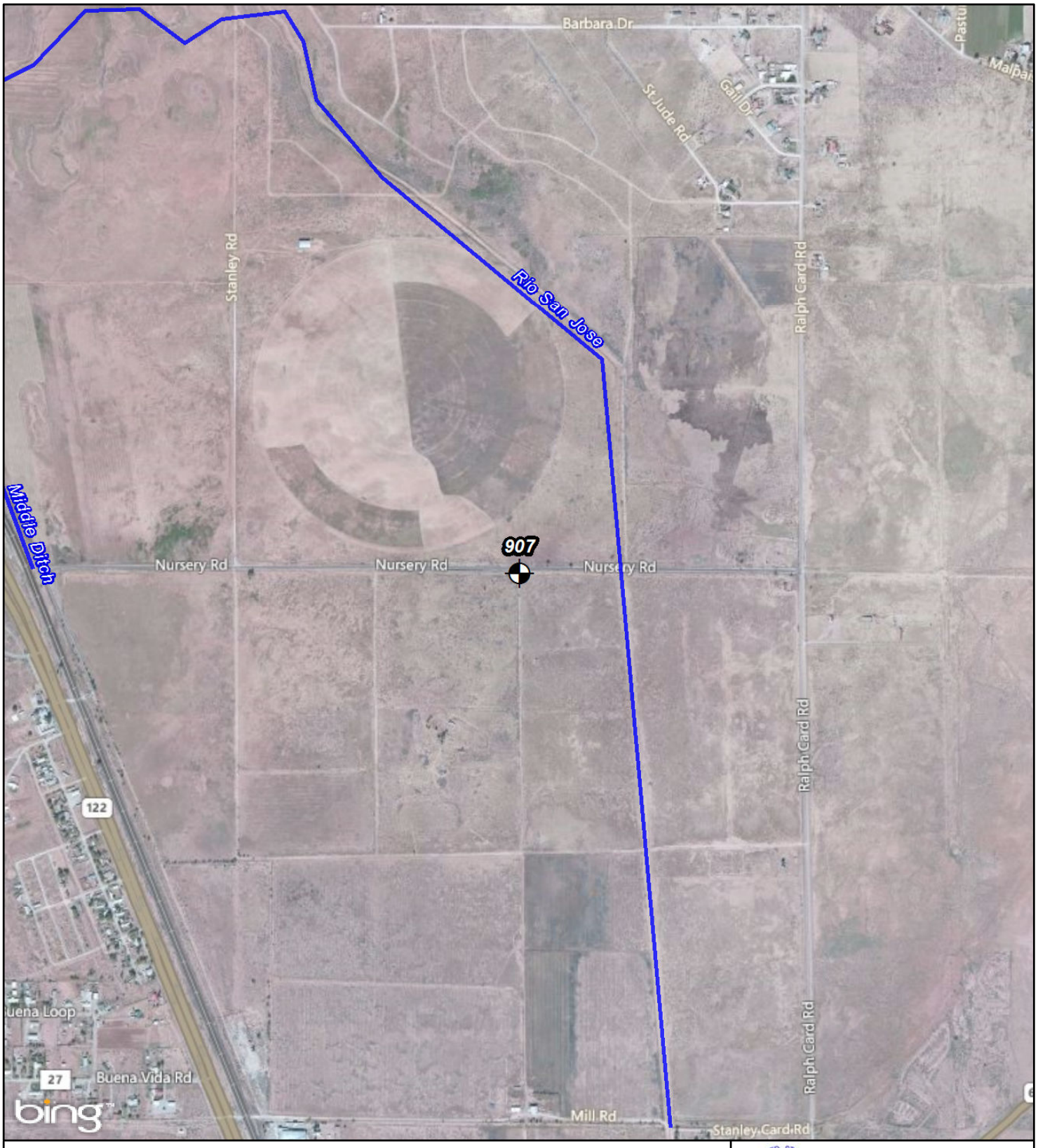
Analyte	Units	EPA National Primary Drinking Water Standard Maximum Contaminant Level (MCL)	New Mexico Water Quality Control Commission (NMWQCC)	Sample ID Date Type	MW-907-20150209 2/9/2015 Field Sample
Dissolved Metals					
Aluminum	mg/L	NA	NP	--	0.45
Antimony	mg/L	NA	NP	--	0.075
Arsenic	mg/L	NA	NP	--	0.036
Barium	mg/L	NA	NP	--	0.042
Beryllium	mg/L	NA	NP	--	0.0057
Boron	mg/L	NA	NP	--	0.23
Cadmium	mg/L	NA	0.01	--	0.0067
Calcium	mg/L	NA	NP	--	180
Chromium	mg/L	NA	0.05	--	0.067
Cobalt	mg/L	NA	NP	--	0.054
Copper	mg/L	NA	1	--	0.042
Iron	mg/L	NA	1	--	0.26
Lead	mg/L	NA	0.05	--	0.024
Magnesium	mg/L	NA	NP	--	42
Manganese	mg/L	NA	0.2	--	0.02
Mercury	mg/L	NA	0.002	--	0.00006
Molybdenum	mg/L	NA	NP	--	0.038
Nickel	mg/L	NA	NP	--	0.051
Phosphorus	mg/L	NA	NP	--	0.28
Potassium	mg/L	NA	NP	--	9.1
Selenium	mg/L	NA	0.05	--	0.052
Silicon	mg/L	NA	NP	--	8.7
Silver	mg/L	NA	0.05	--	0.02
Sodium	mg/L	NA	NP	--	260
Thallium	mg/L	NA	NP	--	0.048
Tin	mg/L	NA	NP	--	0.1
Titanium	mg/L	NA	NP	--	0.025
Uranium	mg/L	NA	0.03	--	0.51
Vanadium	mg/L	NA	NP	--	0.088
Zinc	mg/L	NA	10	--	0.17
Dissolved Uranium Re-Analysis					
Uranium	mg/L	NA	0.03	--	0.019
General Chemistry					
Alkalinity	mg/L	NP	NP	--	260
Bicarbonate Alkalinity as CaCO3	mg/L	NP	NP	--	260
Bromide	mg/L	NP	NP	--	0.26
Carbonate Alkalinity as CaCO3	mg/L	NP	NP	--	0.54
Chloride	mg/L	NP	250	--	88
Fluoride	mg/L	NP	1.6	--	0.3
Nitrate as N	mg/L	1	10	--	6.2
Nitrite as N	mg/L	1	NP	--	0.06
Orthophosphate	mg/L	NP	NP	--	0.12
pH	pH Units	6.5-8.5	6-9	--	7.14
Sulfate	mg/L	250	600	--	670
Total Dissolved Solids	mg/L	500	1000	--	1400

San Mateo Creek Basin
Phase I Water Analytical Results

Analyte	Units	EPA National Primary Drinking Water Standard Maximum Contaminant Level (MCL)	New Mexico Water Quality Control Commission (NMWQCC)	Sample ID Date Type	MW-907-20150209 2/9/2015 Field Sample
Total Metals					
Aluminum	mg/L	NP	NA	--	0.45
Antimony	mg/L	0.006	NA	--	0.075
Arsenic	mg/L	0.01	NA	--	0.036
Barium	mg/L	2	NA	--	0.042
Beryllium	mg/L	0.004	NA	--	0.0057
Boron	mg/L	NP	NA	--	0.29
Cadmium	mg/L	0.005	NA	--	0.0067
Calcium	mg/L	NP	NA	--	190
Chromium	mg/L	0.1	NA	--	0.067
Cobalt	mg/L	NP	NA	--	0.054
Copper	mg/L	1.3	NA	--	0.042
Iron	mg/L	NP	NA	--	2.9
Lead	mg/L	0.015	NA	--	0.032
Magnesium	mg/L	NP	NA	--	42
Manganese	mg/L	NP	NA	--	6.3
Mercury	mg/L	0.002	NA	--	0.00006
Molybdenum	mg/L	NP	NA	--	0.038
Nickel	mg/L	NP	NA	--	0.051
Phosphorus	mg/L	NP	NA	--	0.28
Potassium	mg/L	NP	NA	--	9.1
Selenium	mg/L	0.05	NA	--	0.042
Silicon	mg/L	NP	NA	--	11
Silver	mg/L	NP	NA	--	0.02
Sodium	mg/L	NP	NA	--	240
Thallium	mg/L	0.002	NA	--	0.048
Tin	mg/L	NP	NA	--	0.1
Titanium	mg/L	NP	NA	--	0.025
Uranium	mg/L	0.03	NA	--	0.51
Vanadium	mg/L	NP	NA	--	0.13
Zinc	mg/L	NP	NA	--	0.17
Radiological					
Gross Alpha	pCi/L	15	NP	--	19.3 (+/- 6.97)
Gross Beta	pCi/L	NP	NP	--	5.06 (+/- 2.71)
Radium-226	pCi/L	5	30	--	0.378 (+/- 0.123)
Radium-228	pCi/L	5	30	--	0.67 (+/- 0.432)
Thorium-227	pCi/L	NP	NP	--	0.361 (+/- 0.292)
Thorium-228	pCi/L	NP	NP	--	0.29 (+/- 0.386)
Thorium-230	pCi/L	NP	NP	--	0.665 (+/- 0.386)
Thorium-232	pCi/L	NP	NP	--	-0.0419 (+/- 0.0593)
Uranium-233/234	pCi/L	NP	NP	--	6.34 (+/- 1.37)
Uranium-235/236	pCi/L	NP	NP	--	0.0445 (+/- 0.165)
Uranium-238	pCi/L	10	NP	--	4.79 (+/- 1.16)
Total Uranium Re-Analysis					
Uranium	mg/L	0.03	NA	--	0.013

Notes:

U - Analyte not detected
B - Possible blank contamination
G - The Sample MDC is greater than the requested RL
H - High bias
HF - Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J - The identification of the analyte is acceptable; the reported value is an estimate
K - Unknown bias
L - Low bias
Q - Detected below the quantitation limit
R - Quality Control indicates that data are unusable for all purposes
* - LCS or LCSD exceeds the control limits
NP - Not Published
NA- Not Applicable
mg/L - milligrams per Liter. Milligrams per liter are equivalent to parts per million.
pCi/L - picocuries per Liter
Maximum Contaminant Levels (MCLs) are standards that are set by the United States Environmental Protection Agency (EPA) for drinking wa
An MCL is the legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act.
New Mexico Water Quality Control Commission Standard (NWQCC) Health-based standards applicable to groundwater with less than 10,000 mg/L Total Dissolved Solids (TDS). For metals contaminants, these standards apply to dissolved metals.
NWQCC for Radioactivity: Combined Radium-226 and Radium-228 standard is 30 pCi/L.



0 1,250 2,500

Feet

LEGEND

Existing Monitor Well
(Phase I Sample Location)

CERCLIS ID: NMN000606847
TDD NO:
19/WESTON-042-13-001
35/WESTON-042-14-001

SOURCE: (c) Microsoft Bing and its data suppliers, 2014

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USEPA REGION 6

FIGURE 1
WELL 907
SAN MATEO CREEK BASIN LEGACY URANIUM
CIBOLA & MCKINLEY COUNTIES, NM

DATE	PROJECT NO	SCALE
JUL 2015	20406.012.019.0833.01 20406.012.035.0846.01	AS SHOWN

FILE: L:\20406_START3_R6\TRONOX_MINE_ASSESSMENTS\GIS\Phase I Property Maps\Phase I Property and State Well Maps.mxd 8:47:57 AM 7/9/2015 bondp

Natural & Depleted Uranium - ToxFAQs™

CAS # 7440-61-1

This fact sheet answers the most frequently asked health questions (FAQs) about natural and depleted uranium. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Natural uranium is a naturally occurring chemical substance that is mildly radioactive. Depleted uranium is an adjusted mixture of natural uranium isotopes that is less radioactive. Everyone is exposed to low amounts of uranium through food, water, and air. Exposure to high levels of natural or depleted uranium can cause kidney disease. Uranium has been found in at least 67 of 1,699 National Priorities List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is uranium?

Uranium is a naturally occurring radioactive element. It is naturally present in nearly all rocks, soils, and air; can be redistributed in the environment through wind and water erosion; and more can be released into the environment through volcanic eruptions. Natural uranium is a mixture of three isotopes: ^{234}U,235U, and ^{238}U. The most common isotope is ^{238}U; it makes up over 99% of natural uranium. All three isotopes behave the same chemically, but they have different radioactive properties. The half-lives of uranium isotopes (the amount of time needed for half of the isotope to give off its radiation and change into a different element) is very long. The least radioactive isotope is ^{238}U with a half life of 4.5 billion years. Depleted uranium is a mixture of the same three uranium isotopes except that it has very little ^{234}U and ^{235}U. It is less radioactive than natural uranium. Enriched uranium is another mixture of isotopes that has more ^{234}U and ^{235}U than natural uranium. Enriched uranium is more radioactive than natural uranium.

Uranium is almost as hard as steel and much denser than lead. Natural uranium is used to make enriched uranium; depleted uranium is the leftover product. Enriched uranium is used to make fuel for nuclear power plants. Depleted uranium is used as a counterbalance on helicopters rotors and airplane control surfaces, as a shield to protect against ionizing radiation, as a component of munitions to help them penetrate enemy armored vehicles, and as armor in some parts of military vehicles.

What happens to uranium when it enters the environment?

- Natural and depleted uranium that exist in the dust in the air settle onto water, land, and plants. Uranium deposited on land can be reincorporated into soil, washed into surface water, or stick to plant roots. Uranium in air, surface water, or groundwater can be transported large distances.

How might I be exposed to uranium?

- Food and drinking water are the primary sources of intake for the general public. Very low levels of uranium are found in the air.
- Root crops such as potatoes, parsnips, turnips, and sweet potatoes contribute the highest amounts of uranium to the diet. Because uranium in soil can stick to these vegetables, the concentrations in these foods are directly related to the concentrations of uranium in the soil where the foods are grown.
- In most areas of the United States, low levels of uranium are found in the drinking water. Higher levels may be found in areas with elevated levels of naturally occurring uranium in rocks and soil.
- People may be exposed to higher levels of uranium if they live near uranium mining, processing, and manufacturing facilities. People may also be exposed if they live near areas where depleted uranium weapons are used.

How can uranium enter and leave my body?

Most of the uranium you breathe or ingest is not absorbed and leaves the body in the feces. Absorbed uranium is deposited throughout the body. The highest levels are found in the bones, liver, and kidneys; 66% of the uranium in the body is found in your bones. It can remain in the bones for a long time; the half-life of uranium in bones is 70–200 days. Most of the uranium that is not in bones leaves the body in the urine in 1–2 weeks.

How can uranium affect my health?

Natural uranium and depleted uranium have the identical chemical effect on your body. Kidney damage has been seen in humans and animals after inhaling or ingesting

CAS # 7440-61-1

uranium compounds. However, kidney damage has not been consistently found in soldiers who have had uranium metal fragments in their bodies for several years. Ingesting water-soluble uranium compounds will result in kidney effects at lower doses than following exposure to insoluble uranium compounds.

Studies in animals have shown that inhalation exposure to insoluble uranium compounds can result in lung damage. In male rats and mice, exposure to uranium has been shown to decrease fertility. Uranium compounds on the skin caused skin irritation and mild skin damage in animals.

Health effects of natural and depleted uranium are due to chemical effects and not to radiation.

How likely is uranium to cause cancer?

Neither the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) nor the EPA have classified natural uranium or depleted uranium with respect to carcinogenicity.

How can uranium affect children?

The health effects seen in children from exposure to toxic levels of uranium are expected to be similar to the effects seen in adults.

Exposure of animals to high levels of uranium during pregnancy, which caused toxicity in the mothers, has induced early deaths and birth defects in the young. It is not clear if this can happen in the absence of effects on the mother. We do not know whether uranium can cause birth defects in people. There are some studies that suggest that exposure to depleted uranium increased the frequency of birth defects, but the studies are deficient to allow valid conclusions.

How can families reduce the risk of exposure to uranium?

- Avoid eating root vegetables grown in soils with high levels of uranium. Consider washing fruits and vegetables grown in that soil and discard the outside portion of root vegetables.
- Consider having your water tested if you suspect that your drinking water might have elevated levels of uranium; if elevated levels are found, consider using bottled water.

Is there a medical test to determine whether I've been exposed to uranium?

Natural uranium is in your normal diet, so there will always be some level of uranium in all parts of your body. If depleted uranium is present, it adds to the total uranium level. Uranium can be measured in blood, urine, hair, and body tissues. Most tests are for total uranium; however, expensive tests are available to estimate the amounts of both natural and depleted uranium that are present.

Has the federal government made recommendations to protect human health?

The government has made recommendations for uranium which apply to natural and depleted uranium combined.

The EPA established a maximum drinking water contaminant level of 0.03 mg/L.

The Occupational Safety and Health Administration (OSHA) has limited workers' exposure in air to an average of 0.05 mg U/m^3 for soluble uranium and 0.25 mg U/m^3 for insoluble uranium over an 8-hour workday.

The National Institute for Occupational Safety and Health (NIOSH) recommends workers exposure be limited to 0.05 mg U/m^3 of air for soluble uranium and 0.2 mg U/m^3 for insoluble uranium averaged over a 10-hour workday and recommends that exposure to soluble uranium not exceed 0.6 mg U/m^3 for more than 15 minutes.

The Nuclear Regulatory Commission (NRC) has established air concentration limits for uranium and its individual isotopes that apply to occupational exposure and releases from facilities.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2013. Toxicological Profile for Uranium. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30333.

Phone: 1-800-232-4636.

ToxFAQs™ Internet address via WWW is http://www.atsdr.cdc.gov/toxfaqs/index.asp.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.